

a feedback part for outputting to the comparison part a feedback signal exceeding the reference signal in the control of the pulse driving unit.

22. The driving circuit as claimed in claim 21, further comprising:

an amplifying unit for amplifying the detecting signal outputted from the excessive current detecting part and applying the amplified detecting signal to the comparison part.

23. A driving method of a DC microwave oven having an inverting unit for converting a DC voltage of a DC power supply into an AC voltage by driving pulses, a high voltage transformer for transforming the AC voltage applied by the driving of the inverting unit and supplying the transformed AC voltage to a magnetron, a pulse driving unit for generating the driving pulses, and a switching unit for switching on and off the voltage supply to the pulse driving unit from the DC power voltage, comprising steps of:

a) driving the pulse driving unit by controlling the switching unit if a cooking chamber door is closed and a cooking start selection signal is inputted;

b) detecting whether an excessive current is supplied to the high voltage transformer through the inverting unit driven by the pulse driving unit; and

c) cutting off the voltage supply to the magnetron by stopping the driving of the pulse driving unit if the excessive current is detected.

24. The driving method as claimed in claim 23, further comprising a step of:

d) forming a voltage supply path in parallel with the high voltage transformer if the cooking chamber door is opened in the state that the excessive current is not detected, and opening the voltage supply to the inverting unit from the DC power supply if an excessive current flows in the voltage supply path formed in parallel.

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25. The driving method as claimed in claim 24, wherein a three-terminal monitor switch is provided, the fixed terminal thereof is connected in the voltage supply path connecting the inverting unit and the high voltage transformer, a first contact thereof selectively switched to the fixed terminal is connected to the DC power supply through the fuse, and a second contact thereof selectively switched to the fixed terminal is connected to a unit for carrying out the detection of the excessive current when the cooking chamber door is closed, the fixed terminal being switched on to the second contact in the step b), and the fixed terminal being switched on to the first contact in the step d).

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# ABSTRACT OF THE DISCLOSURE

Disclosed is a circuit and a method for driving a DC microwave oven. The circuit for driving a DC microwave oven according to the present invention includes : an inverting means to convert DC into AC by a driving pulse; a high voltage transformer to transform the AC from the inverting means, and supply the transformed AC to a magnetron; a pulse driving means to generate the driving pulse; and an over-current detecting means to detect an electric current which is supplied to the inverting means from a DC power source, and output an over-current detect signal if the detected current is determined as an over-current, so as to avoid the generation of the driving pulse by the pulse driving means. According to the present invention, the driving of the magnetron could be stopped when a malfunction of an interlock switch caused by an error or the over-current from the DC power source is detected, and circuit elements can be advantageously prevented from being damaged by the over-current.